

71 storing in a second stage queue associated with each determined destination port the packet-related data from the first stage queue; and

transmitting the packet-related data in the second state queue to a switch fabric for completing the communication of the data packet from the sending port to each determined destination port.

2. The method of claim 1 wherein the packet-related data is a pointer to memory and a list of destination ports.

3. The method of claim 1 including sending the packet-related from the sending port to the first stage queue.

4. The method of claim 1 wherein the first stage queue includes multiple first queues, and the step of storing the data in the first stage queue comprises storing the data in a specific first queue based on a characteristics of the packet.

5. The method of claim 1 wherein the packet characteristic is priority.

⑥ 6. The method of claim 1 wherein the packet characteristic is network protocol type.

7. The method of claim 1 wherein the packet characteristic is type of service.

⑧ 8. The method of claim 1 wherein the packet characteristic is other than whether the packet is a unicast or multicast type.

72 ⑨ 9. The method of claim 1 wherein each second stage queue includes multiple second queues, and the step of storing the data in

the second stage queue comprises storing the data in a specific second queue based on a characteristic of the packet.

10. The method of claim 1 wherein the packet-related data is a data packet.

11. The method of claim 1 wherein the switch fabric is a shared memory switch fabric, and the transmitting comprises using the data to obtain a copy of the data packet from the shared memory switch fabric to complete communication of the data packet.

12. The method of claim 1 wherein the switch fabric is a crossbar matrix, and the transmitting comprises using the data to form connections in the matrix so as to communicate simultaneously a copy of the data packet from the sending port to each of the determined destination ports.

13. In a switching device, apparatus for communicating data packets from sending ports to destination ports, comprising:

a first stage queue storing packet-related data from a sending port;

a second stage queue associated with each of a set of destination ports storing the packet-related data from the first stage queue; and

a switch fabric coupled to the second stage queue, the switch fabric using the packet-related data in the second stage queue for transmitting the data packet to a destination port.

14. The apparatus of claim 13 including means for determining from the packet-related data which destination ports are to receive the packet-related data in the first stage queue.

16. The apparatus of claim 13 including address resolution logic sending the packet-related data from the sending port to the first stage queue.

17. The apparatus of claim 13 wherein the first stage queue includes multiple first queues, the data stored in a specific first queue based on a characteristic of the packet.

24 18. The apparatus of claim 13 wherein each second stage queue includes multiple second queues, the data stored in a specific second queue based on a characteristic of the packet.

19. The apparatus of claim 13 wherein the switch fabric is a shared memory switch fabric for communicating data packets from sending ports to destination ports.

20. The apparatus of claim 13 wherein the switch fabric is a crossbar matrix for communicating data packets from sending ports to destination ports.

25 21. In a switching device, apparatus for communicating data packets from sending ports to destination ports, comprising:

means for storing in a first stage queue packet-related data from a sending port;

means for determining from the packet-related data which destination ports are to receive the packet-related data in the first stage queue;

means for storing in a second stage queue associated with each determined destination port the packet-related data from the first stage queue; and

21 means for transmitting the packet-related data in the second stage queue to a switch fabric for completing the communication of the data packet from the sending port to each determined destination port.

22. (NEW) In a switching device, a method for communicating data packets from sending ports to destination ports, the method comprising:

storing in a first stage queue a pointer to memory storing a data packet and a list of destination ports;

23 identifying a destination port stored in the first stage queue; retrieving the pointer to memory stored in the first stage queue; storing in a second stage queue associated with the identified destination port the retrieved pointer to memory; and

using the pointer to memory in the second stage queue to complete the communication of the data packet from the sending port to the identified destination port.

REMARKS

Claims 1-14 and 16-22 are currently pending in this application. Claim 22 has been added.

According to the Examiner's instructions, Applicant has disregarded the section of the Office action entitled "Response to Arguments" which erroneously indicates that an appeal brief was filed on September 13, 2002, instead of a Response to Final Rejection. In a telephone conversation with the Examiner on November 27, 2002, the Examiner acknowledged that no such appeal brief was filed, and that the current non-final Office action replaces the final Office action issued on July 16, 2002.

In the present Office action, the Examiner objects to claims 6, 8-10, and 18 as being dependent upon a rejected base claim, but indicates that they would be allowable if rewritten in independent